# DOCTORAL DISSERTATIONS ON THE MANAGEMENT AND ECOLOGY OF FISHERIES Additional listings, 1952 - 55

Marine Biological Laboratory
LIBRARY
MAY 1 = 1959
WOODS HOLE, MASS.



# EXPLANATORY NOTE

The series embodies results of investigations, usually of restricted scope, intended to aid or direct management or utilization practices and as guides for administrative or legislative action. It is issued in limited quantities for official use of Federal, State or cooperating agencies and in processed form for economy and to avoid delay in publication.

United States, Department of the Interior, Fred A. Seaton, Secretary Fish and Wildlife Service, Arnie J. Suomela, Commissioner

# DOCTORAL DISSERTATIONS ON THE MANAGEMENT AND ECOLOGY OF FISHERIES Additional listings, 1952-55

Compiled by

Harvey L. Moore Fishery Research Biologist Bureau of Commercial Fisheries



United States Fish and Wildlife Service Special Scientific Report--Fisheries No. 272

Washington, D. C. January 1959

The Library of Congress catalogue card for this publication is as follows:

## Moore, Harvey L

Doctoral dissertations on the management and ecology of fisheries, additional listings, 1952-55. Washington, U. S. Dept. of the Interior, Fish and Wildlife Service, 1959.

iv, 31 p. 27,cm. (U. S. Fish and Wildlife Service. Special scientific report—fisheries, no. 272)

1. Fisheries—Bibl. 2. Fishes—Bibl. 3. Dissertations, Academic—Bibl. 1. Title. (Series)

[SH11.A335 no. 272]

Int 59-9

U.S. Dept. of the for Library of Congress

Interior. Library

The Fish and Wildlife Service series, Special Scientific Report--Fisheries, is catalogued as follows:

U. S. Fish and Wildlife Service.

Special scientific report: fisheries. no. 1Washington, 1949-

no. illus., maps, diagrs. 27 cm.

Supersedes in part the Service's Special scientific report.

1. Fisheries-Research.

SH11.A335 639.2072 59-60217

Library of Congress [2]

# CONTENTS

														Page
Crustacea								•						1
Development														2
Diseases and Pa														3
Ecology														5
Faunas and Manu														7
Food and Food (														8
Game Fishes	_													8
Hydrology														9
Life History														10
Limnology														12
Management														14
Marine Fishes														14
Microbiology														15
Miscellaneous														16
Morphology														17
Oceanography														17
Physiology														19
Plankton														21
Pollution														22
Populations .														22
Shellfish														23
Taxonomy													Ī	24
													·	25
Technology .												•	•	26
											•	•	•	28
Colleges and Un														31

In 1952 a revised listing of doctoral dissertations relating to the management and ecology of fish and fisheries was published as Special Scientific Report—Fisheries No. 87. This report covered the academic years from 1934 through 1950-51. The present report is a continuation of listings of dissertations covering the 4-year period from 1951-52 through 1954-55.

Titles have been taken from the annual "Doctoral Dissertations Accepted by American Universities," 1951-52 to 1954-55, published by H. W. Wilson Company, New York. The list is complete only to the extent of coverage of reference material and the ability of the compiler to recognize titles of significance and adequately interpret them.

Many theses are never published, and the information contained in the unpublished material is not readily available to the researcher. All theses, however, are on file in the libraries of the institutions where they were accepted. Interlibrary loans can be arranged with almost all of these institutions.

Compiled by Harvey L. Moore Division of Biological Research Bureau of Commercial Fisheries

#### CRUSTACEA

SEE also <u>DISEASES AND PARASITES</u>: Aaronson, Ray, Stamper; <u>ECOLOGY</u>: Borecky, Price; <u>FAUNAS AND MANUALS</u>: Crocker, Jones; <u>LIFE HISTORY</u>: Coffin, Conover; <u>LIMNOLOGY</u>: Comita; <u>PHYSIOLOGY</u>: Barber, Dalton, Durand, Guyselman, Maynard.

# BROWN, Paul L.

The biology of the crayfishes of central and southeastern Illinois. PhD, Illinois, 1955.

# COSTLOW, John D.

Shell development and molting in <u>Balanus</u> <u>improvisus</u>. PhD, Duke, 1955.

# DAVIS, LeRoy T.

Studies on the nutrition of the fresh water crustacean <u>Daphnia</u> magna. PhD, Syracuse, 1954.

#### FAIRCHILD, Edward J., II.

Effects of lowered oxygen tension on the susceptibility of <u>Daphnia</u> magna to certain inorganic salts. PhD, Louisiana, 1955.

# HILDEBRAND, Henry H.

A survey of the shallow water fauna of the commercial brown shrimp, Penaeus aztecus Ives, grounds in the western Gulf of Mexico. PhD, Texas, 1954.

# LINDBERG, Robert G.

Growth, population dynamics, and field behavior in the spiny lobster, Panulirus interruptus. PhD, California, Los Angeles, 1952.

#### McLEESE, Donald W.

Effects of temperature, salinity, and oxygen on the survival and distribution of the lobster Homarus americanus Milne-Edwards. PhD, Toronto, 1954.

# RAGOTZKIE, Robert A.

The distribution of <u>Daphnia</u> in Lake Mendota and their mode of feeding. PhD, Wisconsin, 1953.

#### ROBERTS, John L.

Studies on acclimatization of respiration to temperature in the lined shore crab, <u>Pachygrapsus</u> crassipes Randall. PhD, California, 1953.

SHUSTER, Carl N., Jr.

On morphometric and serological relationships within the Limulidae, with particular reference to <u>Limulus</u> polyphemus (L.). PhD, New York, 1955.

SMITH, Charles E., Jr.

Variations of excitability in the central nervous system of the crayfish. PhD, Illinois, 1954.

#### DEVELOPMENT

SEE also <u>CRUSTACEA</u>: Costlow, Lindberg; <u>LIFE HISTORY</u>: Jensen; MORPHOLOGY: Pierson.

ALLEN, Ashael L.

Effects of X-irradiation upon embryonic development in the paradise fish, Macropodus opercularis. PhD, California, Los Angeles, 1952.

BRUMMETT, Anna R.

The relationships of the germ ring to the formation of the tail bud in <u>Fundulus</u> as demonstrated by the carbon marking technique. PhD, Bryn Mawr, 1953.

DUWE, Arthur E.

The origin and development of the gas bladder in the green sunfish, Lepomis cyanellus Rafinesque. PhD, Ohio State, 1954.

HISACKA, Konichi K.

Effects of the carcinogen, 2-acetylaminofluorene and certain metabolic inhibitors on the early development of the zebra fish, Brachydanio rerio. PhD, Rutgers, 1954.

IVEY, William D.

The effect of lithium chloride on the development of Nassa obsoleta, a marine gastropod with mosaic development. PhD, Emory, 1955.

KAVANAU, Julian L.

Metabolism of proteins, peptides, and free amino acids during sea urchin development. PhD, California, Berkeley, 1953.

MEDLEN, Ammon B.

Studies on the development of Gambusia affinis. PhD, Texas A. & M., 1954.

#### DISEASE AND PARASITES

SEE also FAUNAS AND MANUALS: Timm; LIFE HISTORY: Wigley; MORPHOLOGY: Lennon; PHYSIOLOGY: Shellhamer.

# AARONSON, Sheldon

A comparative study of <u>Gaffkya homari</u>, pathogenic in the American lobster (<u>Homarus americanus</u>), with other packet-forming micrococci. PhD, New York, 1953.

CHOQUETTE, Laurent P. E.

Studies on some helminths parasitic in the trout, <u>Salvelinus</u> fontinalis (Mitchill) in Quebec. PhD, McGill, 1954.

ETGES, Frank J.

Studies on the life histories of Maritrema obstipum (Van Cleave and Mueller, 1932) and Levinseniella amnicolae n. sp. (Trematoda: Microphallidae). PhD, New York, 1953.

HARGIS, William J., Jr.

Monogenetic trematodes of some Gulf of Mexico fishes. PhD, Florida, Tallahassee, 1954.

HUGGHINS, Ernest J.

Life history of a trematode, <u>Hysteromorpha</u> <u>triloba</u> (Rudolphi, 1819) Lutz, 1931, with ecological considerations. U.M. PhD, Illinois, 1953.

HUNT, John S.

The life history of Gorgodera vivata n. sp. (Trematoda:Gorgoderidae). PhD, Michigan, 1952.

LeZOTTE, Lloyd A., Jr.

Studies on marine digenetic trematodes of Puerto Rico; the family Bivesiculidae, its biology and affinities. PhD, Purdue, 1954.

MARGOLIS, Leo

Studies on parasites and diseases of marine and anadromous fish from the Canadian Pacific Coast. PhD, McGill, 1953.

McCAULEY, James E.

Some hemiurid trematodes of Oregon marine fishes. PhD, Oregon State, 1954.

MITCHELL, Rodger D.

Anatomy, life history, and evolution of the mites parasitising fresh water mussels. PhD, Michigan, 1954.

- OLSON, Andrew C., Jr.
  - Parasites of the grunion <u>Leuresthes</u> <u>tenuis</u> (Ayres). PhD, Oregon State, 1955.
- PARSONS, Thomas M.

Studies on the asexual stages in the life cycle of the frog bladder fluke, Gorgoderina attenuata, Stafford, 1902. U.M. PhD, Iowa, 1953.

RAY, Sammy M.

Biological studies of <u>Dermocystidium marinum</u>, a fungous parasite of oysters. PhD, Rice, 1954.

SINDERMANN, Carl J.

Studies on parasites of fishes, with special reference to ichthyosporidium disease of the herring. PhD, Harvard, 1953.

SMITH, Robert J.

The life-history of Megalodiscus ferrissianus n. sp. (Trematoda-Paramphistomatidae). PhD, Michigan, 1953.

STAMPER, Maynard N.

Studies on Entocythere illinoisensis Hoff, an ostracod occurring on crayfish. PhD, Ohio State, 1955.

VERNBERG, Winona M.

Studies on the trematode family Cyathocotylidae Poche, 1926, with the description of a new species of Holostephanus from fish and the life history of <u>Prohemistomum chandleri</u> sp. nov. PhD, Purdue, 1952.

WAGNER, Edward D.

Morphology and natural history of <u>Proteocephalus tumidocollus</u> n. sp. (Cestoda) from the rainbow trout. PhD, Southern California, 1954.

WU, Liang-yu

Life history studies on three genera of trematodes found in the Ottawa River. PhD, McGill, 1953.

#### ECOLOGY

SEE also <u>DISEASES AND PARASITES</u>: Hugghins; <u>GAME FISHES</u>: Crawley, Pratt; <u>LIFE HISTORY</u>: DeWitt; <u>LIMNOLOGY</u>: Hendricks, Teal; <u>MARINE FISH AND FISHERIES</u>: Ketchen, Salo; <u>MORPHOLOGY</u>: Yeatman; <u>SHELLFISH</u>: Allen, Dehnel, Pulley; <u>TAXONOMY</u>: Harry, Wade.

#### ARMITAGE, Kenneth B.

The comparative ecology of the riffle insect fauna of the Firehole River, Yellowstone National Park, Wyoming. PhD, Wisconsin, 1954.

#### BENSON, Norman G.

The relationship among certain ecological conditions and trout populations in the Pigeon River. PhD, Michigan, 1953.

#### BLUM, John L.

The ecology of algae growing in the Saline River, Michigan, with special reference to water pollution. PhD, Michigan, 1953.

# BORECKY, Gloria W.

The ecology of the limnetic Cladocera of Pymatuning Reservoir. PhD, Pittsburgh, 1954.

#### BOUSFIELD, Edward L.

Ecological control of the occurrence of barnacles in the Miramichi estuary. PhD, Harvard, 1954.

#### CARPELAN, Lars H.

The hydrobiology of the Alviso salt ponds. PhD, Stanford, 1954.

#### CURRY, La Verne L.

An ecological study of the family Tendipedidae (Diptera) of two fresh-water lakes in Isabella County, Michigan. PhD, Michigan State, 1953.

# DARNELL, Rezneat M., Jr.

An ecological study of the Rio Sabinas and related waters in southern Tamaulipas, Mexico, with special reference to the fishes. PhD, Minnesota, 1953.

#### deROTH, Gerardus C.

Relationship between bottom fauna and production of largemouth bass, <u>Micropterus salmoides</u> (Lacepede), in the absence of competing sport fishes. PhD, Michigan, 1953.

#### HANCOCK, Hunter M.

Investigations and experimentation relative to winter aggregations of fishes in Canton Reservoir, Oklahoma. PhD, Oklahoma A. & M., 1955.

- HEDGPETH, Joel W.
  - Ecological and distributional relations of marine and brackish water invertebrates of the coasts of Texas and Louisiana. PhD, California, Berkeley, 1952.
- JOHN, Kenneth R.

An ecological study of the cisco, <u>Leucichthys artedi</u> (Le Sueur) Lake Mendota, Wisconsin. PhD, Wisconson, 1955.

NORTH, Wheeler J.

Biometric, ecological, and quantitative metabolic studies on the marine intertidal snails, <u>Littorina planaxis</u> and <u>L. scutulata</u>. PhD, California, Los Angeles, 1953.

PECKHAM, Richard S.

Ecology and life history of the central mudminnow Umbra limi (Kirtland). PhD, Notre Dame, 1955.

POWERS, Maurice C.

The adjustment of land derived clays to the marine environment. PhD, North Carolina, 1955.

PRICE, John L.

Studies on the ecology, behaviour and taxonomy of Cyclopidae (Crustacea, Copepoda). PhD, Toronto, 1955.

PROCTOR, Vernon W.

The role of antibiosis in the ecology of fresh-water algae. PhD, Missouri, 1955.

SANDERS, Howard L.

The biology of marine benthic communities in Long Island Sound. PhD, Yale, 1955.

STORR, John F.

Ecology and oceanography of the coral reef tract, Abaco Island, Bahamas. PhD. Cornell, 1955.

SUBLETTE, James E.

The ecology of the macroscopic bottom fauna in Lake Texoma. PhD, Oklahoma, 1954.

WALTON, William R.

Ecology of living benthonic foraminifera, Todos Santos Bay, Baja California. PhD, California, Los Angeles, 1954.

WILLIAMS, George C.

A contribution to the ecology and behavior of two fishes of the southern California rocky intertidal zone. PhD, California, Los Angeles, 1955.

WINN, Howard E.

Comparative reproductive behaviour and ecology of fourteen species of darters (Pisces--Percidae). PhD, Michigan, 1955.

WOOD, Kenneth G.

Distribution and ecology of certain bottom living invertebrates of the western basin of Lake Erie. PhD, Ohio State, 1953.

WOODMANSEE, Robert A.

A preliminary investigation of the effect of light intensity on the vertical movements of <u>Daphnia pulex</u>. PhD, Western Reserve, 1952.

#### FAUNAS AND MANUALS

SEE also CRUSTACEA: Hildebrand; SHELLFISH: Pulley, Walter.

BACKUS, Richard H.

The marine and freshwater fishes of Labrador. PhD, Cornell, 1953.

CLENCH, William J.

Origin of the land and freshwater mollusk fauna of the Bahamas, with a list of the species occurring on Cat and Little San Salvador Islands. PhD, Michigan, 1953.

CROCKER, Denton W.

Studies of the distribution, life histories and taxonomy of the crayfishes of New York State. PhD, Cornell, 1952.

HENSON, Earl B., Jr.

The profundal bottom fauna of Cayuga Lake. PhD, Cornell, 1955.

JONES, Woodrow H.

Cladocera of Oklahoma. PhD, Oklahoma, 1955.

REEVES, Jones D.

The fishes in the little river system in Oklahoma. PhD, Oklahoma A. & M., 1954.

- REID, George K., Jr.

  A study of the Gulf fishes in the vicinity of Cedar Key, Florida.

  PhD, Florida, Gainesville, 1952.
- TIMM, Richard W.

  A survey of the marine nematodes of Chesapeake Bay, Maryland.
  PhD, Catholic, 1954.
- TURNER, Ruth D.

  Monograph of the Pholadidae of the western Atlantic and the eastern Pacific. PhD, Radcliff, 1954.

#### FOOD AND FOOD ORGANISMS

SEE also <u>CRUSTACEA</u>: Davis, Fairchild, Ragotzkie; <u>ECOLOGY</u>: Armitage, Borecky, Curry, Woodmansee; <u>FAUNAS AND MANUALS</u>: Jones; <u>TAXONOMY</u>: Cook; <u>TECHNIQUES</u>: Halver, Wood, Zobairi.

- MacPHEE, Craig
  An experimental study of competition for food in fish. PhD,
  Washington, 1954.
- MARCY, Donald E.

  The food and growth of some fishes of Pymatuning Lake, Pennsylvania.

  PhD, Pittsburgh, 1953.

#### GAME FISHES

SEE also <u>DEVELOPMENT</u>: Duwe; <u>DISEASES AND PARASITES</u>: Choquette, Parsons, Wagner; <u>ECOLOGY</u>: Benson, deRoth, Hancock, John; <u>FAUNAS AND MANUALS</u>: Backus, Reeves; <u>LIFE HISTORY</u>: Briggs, Grainger, Hassler, Kinney, Lowry, Riggs, Smith, Williams, Witt; <u>LIMNOLOGY</u>: Adams; <u>MANAGEMENT</u>: Tait; <u>MORPHOLOGY</u>: Graham; <u>PHYSIOLOGY</u>: Job, Wagner, Weinreb, Wisby; <u>POPULATIONS</u>: Johnson, Moorman, Welsh, Whitney; <u>TECHNIQUES</u>: Wood.

CRAWLEY, Henri D.

Causes of stunting of crappie (Pomoxis-nigro-maculatus and Pomoxis annularis) in Oklahoma lakes. PhD, Oklahoma A. & M., 1954.

EIPPER, Alfred W.

The effect of hatchery growth rate on the survival of brown trout planted in Fall Creek, New York. PhD, Cornell, 1953.

PRATT, Virgil S.

Populations, ecology, and management of marginal trout streams in southern Michigan. PhD, Michigan, 1953.

ROSEBERRY, Dean A.

Game fisheries investigation of Claytor Lake. PhD, Virginia Polytechnic Institute, 1953.

SAILA, Saul B.

Investigations on the management of trout in New York farm ponds. PhD, Cornell, 1954.

SHEPARD, Michael P.

Resistance and tolerance of young speckled trout (Salvelinus fontinalis, Mitchill) to low oxygen. PhD, Toronto, 1954.

#### HYDROLOGY

SEE also ECOLOGY: Carpelan; LIMNOLOGY: Adams; MARINE FISH AND FISHERIES: Hamilton, Smoker.

BORDNE, Erich F.

Water use relationships in the Genesee Valley and western Lake Ontario Basin. PhD, Syracuse, 1955.

BRUMSTED, Harlan B.

Some causes and effects of water level fluctuation in artificial marshes in New York State. PhD, Cornell, 1954.

KOVNER, Jacob L.

Changes in stream flow and vegetation characteristics of a water-shed brought about by forest cutting and subsequent natural regrowth. PhD, New York State, 1955.

RICE, Elbert F., Jr.

Hydraulic characteristics of siphon spillways. PhD, Oregon State, 1955.

STONE, Robert.

Ground-water geology, geochemistry, and hydrology of the south-eastern San Joaquin Valley, California. PhD, California, Los Angeles, 1955.

#### LIFE HISTORY

SEE also CRUSTACEA: Brown, Lindberg; DISEASES AND PARASITES:
Etges, Hugghins, Hunt, Mitchell, Smith, Vernberg, Wu; ECOLOGY:
Peckham, Price, Winn; FAUNAS AND MANUALS: Crocker; FOOD AND
FOOD ORGANISMS: Marcy; MARINE FISH AND FISHERIES: Salo, Smoker;
MORPHOLOGY: Graham; SHELLFISH: Allen, J., Menzel; TAXONOMY: Harry.

- ARNOLD, Zach M.
  - The life cycle, cytology, and variation of the foraminiferan Allogromia laticollaris Arnold. PhD, California, Berkeley, 1954.
- BRIGGS, John C.

  The behavior and reproduction of salmonid fishes in a small coastal stream. PhD, Stanford, 1952.
- COFFIN, Harold C.

  The biology of <u>Pagurus samuelis</u> (Stimpson). PhD, Southern California, 1955.
- CONOVER, Robert J.

  The biology of the copepod genus <u>Acartia</u> in Long Island Sound.

  PhD, Yale, 1955.
- DeWITT, Robert M.

  Studies on the biology of Physa gyrina Say; ecology and life history. PhD, Michigan, 1953.
- GRAINGER, Edward H.

  Of the age, growth, migratory habits and reproductive potential of the arctic char (Salvelinus alpinus) of Frobisher Bay, Baffin Island. PhD, McGill, 1954.
- HASSLER, William W.

  Age and growth of the sauger, <u>Stizostedion canadense canadense</u>
  (Smith) in Norris Reservoir, Tennessee. PhD, Tennessee, 1954.
- JEAN, Yves
  A study of spring and fall spawning herring (Clupea harengus L.)
  at Grand River, Bay of Chaleur, Quebec. PhD, Toronto, 1955.
- JENSEN, Thorkil

  The life cycle of the fish acanthocephalan, Pomphorhynchus
  bulbocolli (Linkins) Van Cleave 1919, with some observations on
  larval development in vitro. U.M. PhD, Minnesota, 1953.

- KINNEY, Edward C., Jr.
  - A life history study of the silver chub, <u>Hybopsis storeriana</u> (Kirtland) in western Lake Erie with notes on associated species. PhD, Ohio State, 1954.
- KOO, Swei-yen

Biology of the red salmon, <u>Oncorhynchus nerka</u> (Walbaum) of Bristol Bay, Alaska as revealed by a study of their scales. PhD, Washington, 1955.

LOWRY, Edward M.

The growth of the smallmouth bass (Micropterus dolomieu (Lacepede) in certain Ozark streams of Missouri. PhD, Missouri, 1953.

MATHISEN, Ole A.

Studies on the spawning biology of the red salmon, <u>Oncorhynchus</u> nerka (Walbaum) in Bristol Bay, Alaska, with special reference to the effect of altered sex ratios. PhD, Washington, 1955.

RIGGS, Carl D.

Studies on the life history of the white bass, Lepibema chrysops (Rafinesque), with special reference to Shafer Lake, Indiana. U.M. PhD, Michigan, 1953.

SCHWARTZ, Frank J.

Variations in the growth rates, densities, and meristic characters of four species of darters (Etheostomatinae) from the upper Allegheny River and its tributaries. PhD, Pittsburgh, 1955.

SHAW, Evelyn S.

The role of oral incubation in the embryonic survival of the cichlid fish, <u>Tilapia macrocephala</u> (Bleeker). PhD, New York, 1952.

SMITH, Stanford H.

Life history of the lake herring, <u>Leucichthys</u> artedii (Le Sueur), of Green Bay, Lake Michigan. PhD, Michigan, 1954.

STEVENSON, James C.

Distribution and survival of herring larvae (Clupea pallasii Valenciennes) in British Columbia waters. PhD. Toronto, 1955.

WIGLEY, Roland L.

The life history of the sea lamprey, Petromyzon marinus Linnaeus, of Cayuga Lake, New York. PhD, Cornell, 1953.

WILLIAMS, John E.

Determination of age from the scales of northern pike (Esox lucius L.). PhD, Michigan, 1955.

#### WITT, Arthur, Jr.

Age and growth of the white crappie, Pomoxis annularis, Rafinesque, in Missouri. PhD, Missouri, 1953.

#### LIMNOLOGY

SEE also CRUSTACEA: Davis, Ragotzkie; ECOLOGY: Borecky, Darnell; Proctor, Sublette, Woodmansee; FAUNAS AND MANUALS: Henson, Jones; HYDROLOGY: Brumsted, Kovner; MANAGEMENT: Tanner; MICROBIOLOGY: Holm-Hansen, Potash; MISCELLANEOUS: Kratz; OCEANOGRAPHY: Wang; PLANKTON: Schumacher; POPULATIONS: Johnson; TAXONOMY: Cook, Wade.

#### ADAMS, Arthur K.

Some physicochemical effects of beaver dams upon Michigan trout streams in the Watersmeet area. PhD, Michigan, 1954.

# ANDERSON, George C.

A limnological study of the seasonal variations of phytoplankton populations. PhD, Washington, 1955.

# BARRETT, Paul H.

Effects of alkalinity on adsorption and regeneration of phosphorus in natural lakes. PhD, Michigan State, 1952.

#### COMITA, Gabriel W.

A limnological study of planktonic copepod populations. PhD, Washington, 1954.

#### DORRIS, Troy C.

A limnological survey of lakes on the leveed flood-plain of the Mississippi in western Illinois. PhD, Illinois, 1953.

#### GOULD, Howard R.

Lake Mead sedimentation. PhD, Southern California, 1953.

#### HENDRICKS, Lawrence J.

The effect of carp (Cyprinus carpio) on the limnology of central Missouri farm ponds. PhD, Missouri, 1955.

# KLEINKOPF, M. Dean

Trace element exploration of Maine lake water. PhD, Columbia, 1955.

LEONARD, Edgar M.

Limnological features and successful changes of Lake Carl Blackwell, Oklahoma. PhD, Oklahoma A. & M., 1952.

LOEFFLER, Robert J.

A new method of evaluating the distribution of planktonic algae in freshwater lakes. PhD, Wisconsin, 1955.

MURRAY, Raymond C.

The recent sediments of three Wisconsin lakes. PhD, Wisconsin, 1955.

NATELSON, Delle.

The phytosociology of submerged aquatic macrophytes in Wisconsin lakes. PhD, Wisconsin, 1955.

RIGLER, Frank H.

The circulation of phosphorus in lake water. PhD, Toronto, 1954.

SHAWE, Daniel R.

Heavy detrital minerals in stream sands of the eastern Sierra Nevada between Leevining and Independence, California. PhD, Stanford, 1954.

SLACK, Keith V.

A comparative limnological study of two small streams. PhD, Indiana, 1954.

TEAL, John M.

A study of community metabolism in a temperate cold spring. PhD, Harvard, 1955.

VALLENTYNE, John R. W.

Organic pigments in lake sediments. PhD, Yale, 1953.

ZICKER, Eldon L.

The release of phosphorus from bottom muds and light penetration in northern Wisconsin bog lake waters as influenced by various chemicals. PhD, Wisconsin, 1955.

#### MANAGEMENT

SEE also FOOD AND FOOD ORGANISMS: MacPhee; GAME FISHES: Crawley, Eipper, Pratt, Saila; LIMNOLOGY: Adams; MARINE FISH AND FISHER-IES: Hamilton, Smoker; POPULATIONS: Moorman.

- KOH, Kwang-lim
  - International regulation of fisheries with special reference to those in the North Pacific Ocean. PhD, Rutgers, 1953.
- TAIT, Howard D.
  Sampling problems in the Michigan creel census. PhD, Michigan, 1954.
- TANNER, Howard A.

  Experimental fertilization of Michigan trout lakes. PhD, Michigan State, 1952.

#### MARINE FISH AND FISHERIES

SEE also CRUSTACEA: Hildebrand, Lindberg, McLeese; DISEASES AND PARASITES: Hargis, Margolis, McCauley, Olson, Sindermann; ECOLOGY: Williams; FAUNAS AND MANUALS: Backus, Reid; LIFE HISTORY: Briggs, Jean, Koo, Mathisen, Stevenson; MANAGEMENT: Koh; MORPHOLOGY: Jollie, Pierson; PHYSIOLOGY: Robertson; POPULATIONS: Neave; TECHNIQUES: Halver, Morris; TECHNOLOGY: Khan, Osman.

- GROODY, Thomas C.
  - Behavior studies on the Pacific sardine, <u>Sardinops</u> <u>caerulea</u> (Girard). PhD, California, Berkeley, 1952.
- HAMILTON, James A. R.

  An investigation of the effect of Baker Dam on downstream migrant salmon. PhD, Washington, 1955.
- IDYLL, Clarence P.
  Salt water tagging experiments on sockeye salmon (Oncorhynchus nerka Walbaum). PhD, Washington, 1952.
- Factors influencing the survival of the lemon sole (Parophrys vetulus Girard) in Hecate Strait, British Columbia. PhD, Toronto, 1953.

- McCRACKEN, Francis D.
  - Seasonal movements of the winter flounder <u>Pseudopleuronectes</u> americanus (Walbaum) on the Atlantic Coast. <u>PhD</u>, Toronto, 1954.
- SALO, Ernest O.

Silver salmon, Oncorhynchus kisutch, survival studies at Minter Creek, Washington. PhD, Washington, 1955.

SMOKER, William A.

Effects of streamflow on silver salmon production in western Washington. PhD, Washington, 1955.

#### MICROBIOLOGY

SEE also POLLUTION: Tennant; TECHNOLOGY: Charney.

HOLM-HANSEN, Osmund

A study of major and minor element requirements in the nutrition of blue-green algae. PhD, Wisconsin, 1954.

MORITA, Richard Y.

Occurrence and significance of bacteria in marine sediments. PhD, California, Los Angeles, 1955.

PHILLIPS, Jesse N., Jr.

The growth rate of <u>Chlorella pyrenoidosa</u> as a function of intensity and intermittency of illumination. PhD, Texas, 1953.

POTASH, Milton

A biological test for determining the potential productivity of water. PhD, Cornell, 1953.

SHRIFT, Alex

Sulfur-selenium antagonism: anti-metabolite action of selenate and selenomethionine on the growth of <u>Chlorella vulgaris</u>. PhD, Columbia, 1953.

STARR, Theodore J.

A study of marine myxobacteria. PhD, Washington, 1954.

#### MISCELLANEOUS

- ALDRICH, Frederick A.
  - On the functional morphology of the alimentary canal of the sea star Asterias forbesi (Desor). PhD, Rutgers, 1954.
- ALFKE, Dorothy E.

Professional opportunities for women in conservation and natural science. PhD, Cornell, 1953.

BEAN, Ross C.

Carbohydrate metabolism in the marine red alga, <u>Iridophycus</u> flaccidum. PhD, California, 1954.

CRUTCHFIELD, James A., Jr.

The economics of the Pacific Coast fresh market fishing industry. PhD, California, Berkeley, 1955.

FISHER, Harold D.

Studies on reproduction in the harp seal (<u>Phoca greenlandica</u>) Erxleben in the northwest Atlantic. PhD, McGill, 1955.

KRATZ, William A.

Studies on the physiology of blue-green algae. PhD, Texas, 1955.

McMASTER, Rachel D.

Desoxyribose nucleic acid in cleavage and larval states of the sea urchin. PhD, Columbia, 1955.

PETERSEN, Eugene T.

The history of wild life conservation in Michigan, 1859-1921. U.M. PhD, Michigan, 1953.

PETERSON, Peter V., Jr.

A preliminary study of the opportunities presented by fresh-water streams as laboratories for pre-college science and conservation programs. PhD, Cornell, 1953.

PINKETT, Harold T.

Gifford Pinchot and the early conservation movement in the United States. PhD, American, 1953.

YUAN, Lung

Factors influencing energy efficiency during photosynthesis by Chlorella. PhD, Wisconsin, 1955.

#### MORPHOLOGY

SEE also <u>CRUSTACEA</u>: Costlow, Shuster; <u>DEVELOPMENT</u>: Allen, Brummett; <u>DISEASES</u> AND PARASITES: Mitchell, Wagner; <u>MISCELLA-NEOUS</u>: Aldrich; <u>TAXONOMY</u>: Harry.

GRAHAM, Joseph J.

The morphometry and mortality of the alewife (Pomolobus pseudoharengus, Wilson) in fresh water. PhD, Toronto, 1954.

JOLLIE, Malcolm T.

The general anatomy of Lampanyctus leucopsarus (Eigenmann and Eigenmann). PhD, Stanford, 1955.

LENNON, Robert E.

The feeding mechanism of the sea lamprey, Petromyzon marinus
Linnaeus, and its effects on host fishes. PhD, Michigan, 1953.

PIERSON, Elaine C.

The developmental morphology of Amia calva. PhD, Michigan, 1954.

VALLOWE, Henry H.

Sexual differentiation in the teleost fish, Xiphophorus hellerii, as modified by experimental treatment. PhD, Chicago, 1955.

YEATMAN, Harry C.

Some effects of temperature and turbulence on the external morphology of Cyclops carolinianus Yeatman. PhD, North Carolina, 1953.

#### **OCEANOGRAPHY**

SEE also <u>ECOLOGY</u>: Powers, Storr; <u>MICROBIOLOGY</u>: Morita; <u>PLANKTON</u>: Bernatowicz, Lewis; <u>TECHNIQUES</u>: Chow.

ARX, William S. von

Experimental study of the dependence of the primary ocean circulation on the mean zonal wind field. PhD, Massachusetts Institute of Technology, 1955.

BLUMBERG, Randolph

Analysis of ocean waves and wave forces by a filtering technique. PhD, Texas A. & M., 1955.

- CARSOLA, Alfred J.
  - Marine geology of the Arctic Ocean and adjacent seas off Alaska and northwestern Canada. PhD, California, Los Angeles, 1953.
- FOFONOFF, Nick P.

A theoretical study of zonally uniform oceanic flow. PhD, Brown, 1955.

INMAN, Douglas L.

Areal and seasonal variations in beach and nearshore sediments of La Jolla, California. PhD, California, Los Angeles, 1953.

OLIVER, Jack

Crustal structure and surface wave dispersion. Part IV. The Atlantic and Pacific Ocean basins. PhD. Columbia, 1953.

POWERS, Charles F.

Circulation and water transport in the coastal area between Martha's Vineyard and Barnegat Inlet, New Jersey. PhD, Cornell, 1955.

PRIEST, Melville S.

Wave heights within a harbor due to swell entering through a breakwater gap. PhD, Michigan, 1954.

SCRUTON, Philip C.

Marine geology of the Near Islands shelf, Alaska. PhD, California, Los Angeles, 1953.

VAN DOREN, William G.

Wind stress over water. PhD, California, Los Angeles, 1954.

VERONIS, George

A study of time-dependent wind-driven ocean circulation. PhD, Brown, 1954.

WANG, Feng H.

Recent sediments in Puget Sound and portions of Washington Sound and Lake Washington. PhD, Washington, 1955.

WOOSTER, Warren S.

Phosphate in the eastern North Pacific Ocean. PhD, California, Los Angeles, 1953.

#### PHYS IOLOGY

SEE also <u>CRUSTACEA</u>: Costlow, Fairchild, McLeese, Roberts, Shuster, Smith; <u>DEVELOPMENT</u>: Allen, Brummett, Duwe, Hisacka, Ivey, Kavanau; <u>ECOLOGY</u>: North; <u>GAME FISHES</u>: Shepard; <u>MISCELLANEOUS</u>: Bean, Kratz, McMaster; <u>SHELLFISH</u>: Allen, Harrison, Thomas, Townsley.

BARBER, Saul B.

Chemoreception in Limulus polyphemus (L.). PhD, Yale, 1954.

BENNETT, Miriam F.

The rhythmic activity of the quahog, <u>Venus mercenaria</u>, and its modification by light. PhD, Northwestern, 1954.

CHAVIN, Walter

The role of the pituitary-adrenal mechanism in the reappearance of melanin and melanophores in the goldfish, <u>Carassius auratinus</u> L. PhD, New York, 1954.

CLARK, Philip J.

Relative viability of albino and normal paradise fish, <u>Macropodus</u> opercularis, when exposed in the laboratory to various mortality-producing agents. PhD, Michigan, 1953.

COHEN, Melvin J.

Equilibrium receptors of invertebrates: an electrophysiological analysis of the statocyst in the lobster Homarus americanus. PhD, California, Los Angeles, 1954.

DALTON, John C.

Studies of repetitive firing in a crustacean motor axon. PhD, Harvard, 1955.

DUNN, Arnold

A study of the mitotic inhibitor in the starfish ovary. PhD, Pennsylvania, 1955.

DURAND, James B.

The neurosecretory system of the crayfish, Orconectes virilis. PhD, Harvard, 1955.

FRIEDERS, Fabian

The effects of thyroid-inhibiting drugs on some tropical fish. PhD, Catholic, 1954.

- GUYSELMAN, John B.
  - An analysis of the molting process in the fiddler crab, <u>Uca</u> pugilator. PhD, Northwestern, 1952.
- JOB, Samuel V.

The oxygen consumption of the speckled trout (Salvelinus fontinalis). PhD, Toronto, 1954.

KADOW, Patricia C.

An analysis of sexual behavior and reproductive physiology in the guppy, Lebistes reticulatus (Peters). PhD, New York, 1954.

MAYNARD, Donald M., Jr.

Direct inhibition in the lobster cardiac ganglion. PhD, California, Los Angeles, 1955.

REDICK, Thomas F.

Studies in calcium deposition and exchange in <u>Venus</u> <u>mercenaria</u>. PhD, Pittsburgh, 1955.

ROBERTSON, James G.

A search for female sex hormones in salmon embryos of the genus Oncorhynchus. PhD, British Columbia, 1955.

SCLUFER, Evelyn

Respiration of the Spisula egg. PhD, Pennsylvania, 1954.

SEXTON, Alan W.

Factors influencing the uptake of sodium against a diffusion gradient in the goldfish gill. PhD, Missouri, 1955.

SHELLHAMER, Robert H.

Histochemical studies of the lamprey. PhD, Ohio State, 1953.

WAGNER, Charles E.

The fate of denervated taste buds in normal and regenerating barbels of the catfish. PhD, Indiana, 1955.

WEINREB, Eva L.

Studies on the histology, histochemistry, and histopathology of the digestive tract and adjacent structures in the rainbow trout, Salmo gairdneri irideus. PhD, Wisconsin, 1955.

WISBY, Warren J.

Olfactory responses of fishes as related to parent stream behavior. PhD, Wisconsin, 1952.

#### PLANKTON

SEE also <u>CRUSTACEA</u>: Fairchild, Ragotzkie; <u>ECOLOGY</u>: Borecky; <u>FAUNAS AND MANUALS</u>: Jones; <u>LIFE HISTORY</u>: Conover; <u>LIMNOLOGY</u>: Anderson, Comita, Loeffler; <u>MICROBIOLOGY</u>: Holm-Hansen; <u>MISCELLANEOUS</u>: Bean, Kratz; <u>MORPHOLOGY</u>: Yeatman; <u>TAXONOMY</u>: Bowman.

# BARLOW, John P.

Maintenance and dispersal of the endemic zooplankton population of a tidal estuary, Great Pond, Falmouth, Massachusetts. PhD, Harvard, 1953.

# BERNATOWICZ, Albert J.

Seasonal changes in the marine algal flora of Bermuda. U.M. PhD, Michigan, 1953.

#### FROLANDER, Herbert T.

The biology of the zooplankton of the Narragansett Bay area. PhD, Brown, 1955.

## LAUFF, George H.

The design and application of a multiple sample plankton trap. PhD, Cornell, 1954.

# LEWIS, John B.

The occurrence and vertical distribution of the Euphausiacea of the Florida current. PhD, McGill, 1955.

#### MANLY, Jethro O.

Marine and brackish water diatoms of Beaufort, North Carolina. PhD, Duke, 1953.

# RENLUND, Robert N.

A study of the net plankton of the Delaware and Raritan Canal. PhD, Rutgers, 1953.

# SCHUMACHER, George J.

A qualitative and quantitative study of the plankton algae in southwestern Georgia. PhD, Cornell, 1953.

#### POLLUTION

SEE also ECOLOGY: Blum.

#### KRESS, Herbert

Alleviation of stream pollution from semichemical pulping processes. PhD, Virginia Polytechnic, 1953.

#### TENNANT, Alan D.

Bacterial indices of pollution in oyster producing areas in Prince Edward Island. PhD, McGill, 1955.

#### POPULATIONS

SEE also <u>CRUSTACEA</u>: Lindberg; <u>GAME FISHES</u>: Pratt; <u>LIMNOLOGY</u>: Anderson, Comita; SHELLFISH: Dickie.

#### JOHNSON, Waldo E.

Dynamics of fish production and carrying capacity of some northern soft-water lakes. PhD, Wisconsin, 1954.

#### MOORMAN, Robert B.

Fish populations in some Iowa farm ponds in relation to past history and management. PhD, Iowa State, 1954.

# NEAVE, Ferris

Principles affecting the size of pink and chum salmon populations in British Columbia. PhD, British Columbia, 1952.

# WELSH, James P.

A population study of Yellowstone blackspotted trout Salmo clarkii lewisi Girard. U.M. PhD, Stanford, 1953.

#### WHITNEY, Richard R.

Walleye, Stizostedion vitreum (Mitchill), population of Clear Lake, Iowa. PhD, Iowa State, 1955.

#### SHELLF ISH

SEE also <u>CRUSTACEA</u>: Lindberg, McLeese, Roberts; <u>DEVELOPMENT</u>: Ivey; <u>DISEASES AND PARASITES</u>: Aaronson, Mitchell, Ray; <u>ECOLOGY</u>: Bousfield, North, Sanders; <u>FAUNAS AND MANUALS</u>: Clench, Turner; <u>LIFE HISTORY</u>: DeWitt; <u>PHYSIOLOGY</u>: Bennett, Cohen, Redick, Sclufer; <u>POLLUTION</u>: Tennant; <u>TAXONOMY</u>: McMichael; TECHNOLOGY: Ouellet.

# ALLEN, J. Frances

Observations on the biology, ecological relationships, and growth of the curved mussel, <u>Brachidontes recurvus</u> (Rafinesque), in the upper Chesapeake Bay. PhD, Maryland, 1952.

#### ALLEN, Robert D.

Fertilization and artificial activation in the eggs of the surfclam, Spisula solidissima. PhD, Pennsylvania, 1953.

# CHAMBERLAIN, Joseph L.

Studies in the Mactridae. PhD, Harvard, 1954.

# DEHNEL, Paul A.

Rates of growth of some selected intertidal molluscs as a function of latitude. PhD, California, Los Angeles, 1954.

#### DICKIE, Lloyd M.

Fluctuations in abundance of the giant scallop, <u>Placopecten</u> magellanicus (Gmelin), in the Digby area of the Bay of Fundy. PhD, Toronto, 1953.

#### HARRISON, Florence M.

Some excretory processes in the octopus. PhD, Washington, 1954.

#### HARRY, Harold W.

Carychium exiguum (Say) of Lower Michigan; morphology, ecology, variation and life history (Gastropoda, Pulmonata). PhD, Michigan, 1952.

# MENZEL, Robert W.

Some phases of the biology of Ostrea equestris - Say - and a comparison with Crassostrea virginica (Gmelin). PhD, Texas A. & M., 1954.

# PULLEY, Thomas E.

A zoogeographic study based on the bivalves of the Gulf of Mexico. PhD, Harvard, 1953.

SEGAL, Earl

Microgeographic variation as thermal acclimation in an intertidal mollusc. PhD, California, Los Angeles, 1955.

THOMAS, Lyell J., Jr.

A heparin-like blood anticoagulant from surf clams. U.M. PhD, Pennsylvania, 1953.

TOWNSLEY, Sidney J.

Copper in mollusks, with particular reference to <u>Busycon</u> canaliculatum. PhD, Yale, 1954.

WALTER, Waldemar M.

Mollusks of the upper Neuse River, North Carolina. PhD, Duke, 1954.

#### TAXONOMY

SEE also DISEASES AND PARASITES: Vernberg; ECOLOGY: Price; FAUNAS AND MANUALS: Crocker; TECHNIQUES: Pauly.

BÖHLKE, James E.

Studies on the phylogeny and systematics of fishes of the family Characidae. PhD, Stanford, 1954.

BOWMAN, Thomas E.

The systematics and distribution of pelagic amphipods of the families Vibiliidae, Paraphronimidae, Hyperidae, Dairellidae, and Phrosinidae from the northeastern Pacific. PhD, California, Los Angeles, 1954.

COOK, David R.

Genera of the hydracarina in Michigan, with a revision of the Michigan Arrenuridae. PhD, Michigan, 1952.

CRAWFORD, Ronald W.

A study of the distribution and taxonomy of the percid fish Hadropterus nigrofasciatus Agassiz throughout the southeastern United States. PhD, Cornell, 1954.

HARRY, Robert R., Jr.

Studies on the classification of the fishes of the order Iniomi. PhD, Stanford, 1952.

- ILLICK, Helen J.
  - A comparative study of the lateral-line system on the head of North American Cyprinidae. PhD, Cornell, 1954.
- McMICHAEL, Donald F.

A revision of the freshwater mussels of the Australian region. PhD, Harvard, 1955.

ROBINS, Charles R.

A taxonomic revision of the <u>Cottus bairdi</u> and <u>Cottus carolinae</u> species groups in eastern North America (Pisces, Cottadae). PhD, Cornell, 1955.

ROSS, Robert D.

The subspecies and races of the cyprinid fish <u>Campostoma anomalum</u> (Rafinesque) in eastern United States. PhD, <u>Cornell</u>, 1954.

WADE, Wilbert E.

A study of the taxonomy and ecology of Michigan desmids. PhD, Michigan State, 1953.

WALTERS, Vladimir

Fishes of western Arctic America and eastern Arctic Siberia: taxonomy and zoogeography. PhD, New York, 1954.

#### TECHNI QUES

SEE also <u>LIMNOLOGY</u>: Loeffler; <u>MANAGEMENT</u>: Tait; <u>MICROBIOLOGY</u>: Potash; <u>OCEANOGRAPHY</u>: Blumberg; <u>PLANKTON</u>: Lauff; <u>POLLUTION</u>: Kress; SHELLFISH: Allen.

CHOW, Tsaihwa J.

The determination and distribution of copper in sea water. PhD, Washington, 1953.

- HALVER, John E.
  - I. A vitamin-test diet for Chinook salmon. II. The water soluble vitamin requirements for Chinook salmon. PhD, Washington, 1953.
- MORRIS, Robert W.

Some aspects of the problem of rearing marine fishes. PhD, Stanford, 1954.

- PAULY, Ludwig K.
  - Serological techniques and their use in establishing relationships within relatively small taxonomic groups. PhD, Wisconsin, 1955.
- WOOD, Edward M.

Methods for protein studies with trout with applications to four selected diets. PhD, Cornell, 1954.

ZOBAIRI, Abdul R. K.

Experiments on feeds and rates of feeding for the common carp, Cyprinus carpio Linnaeus, in troughs. PhD, Alabama Polytechnic Institute, 1955.

#### **TECHNOLOGY**

SEE also SHELLFISH: Thomas.

ARVIDSON, Harold C.

Solvent extraction of meat and fish offal. PhD, Iowa State, 1954.

CHARNEY, William

A microbiological process for enrichment of the feed supplement, condensed fish solubles, in Vitamin  $B_{12}$  and other growth factors. PhD, Rutgers, 1953.

CREIGHTON, Stephen M.

Fatty acids of sea anemones. PhD, Yale, 1954.

FEENEY, Robert J.

Sterols and nucleosides from marine invertebrates. PhD, Yale, 1953.

KHAN, Muhammad M. R.

Studies on the "lipoxidase" in the flesh of British Columbia herring. PhD, British Columbia, 1952.

McALEER, William J.

Hydrocarbons of sponges. PhD, Yale, 1954.

NEEDHAM, John W.

Chemical and biological investigation of unidentified growth factors in condensed fish solubles. PhD, Purdue, 1955.

OSMAN, Hussein O. A.

The validity of peroxide values and optical densities as measures of the quality of frozen Chinook salmon. PhD, Oregon State, 1953.

OUELLET, Laurent

The chemical composition, nutritive value, and utilization of the ocean quahog (Cyprina icelandica). PhD, Massachusetts, 1955.

TAMIMIE, Hakki S.

The response of chicks to an unidentified growth factor in fish products. PhD, Illinois, 1955.

# AUTHOR INDEX

I	Page		Page
Aaronson, Sheldon	3	Cook, David R	24
Adams, Arthur K	12	Costlow, John D	
Aldrich, Frederick A	16	Crawford, Ronald W	
Alfke, Dorothy E	16	Crawley, Henri D	
Allen, Ashael L	2	Creighton, Stephen M	
Allen, J. Frances	23	Crocker, Denton W	
Allen, Robert D	23	Crutchfield, James A., Jr	
Anderson, George C	12	Curry, La Verne L	
Armitage, Kenneth B	5	Dalton, John C	
Arnold, Zach M	10	Darnell, Rezneat M., Jr	
Arvidson, Harold C	26	Davis, LeRoy T	
Arx, William S. von	17	Dehnel, Paul A	
Backus, Richard H	7	deRoth, Gerardus C	
Barber, Saul B	19	DeWitt, Robert M	
Barlow, John B	21	Dickie, Lloyd M	
Barrett, Paul H	12	Dorris, Troy C	
Bean, Ross C	16	Dunn, Arnold	
Bennett, Miriam F	19	Durand, James B	
Benson, Norman G	5	Duwe, Arthur E	
Bernatowicz, Albert J	21	Eipper, Alfred W	
Blum, John L	5	Etges, Frank J	
Blumberg, Randolph	17	Fairchild, Edward J., II	
Böhlke, James E	24	Feeney, Robert J	
Bordne, Erich F	9	Fisher, Harold D	
Borecky, Gloria W	5	Fofonoff, Nick P	
Bousfield, Edward L	5	Frieders, Fabian	
Bowman, Thomas E	24	Frolander, Herbert T	
Briggs, John C	10	Gould, Howard R	
Brown, Paul L	1	Graham, Joseph J	
Brummett, Anna R	2	Grainger, Edward H	
Brumsted, Harlan B	9	Groody, Thomas C	
Carpelan, Lars H	5	Guyselman, John B	
Carsola, Alfred J	18	Halver, John E	
Chamberlin, Joseph L	23	Hamilton, James A. R	
Charney, William	26	Hancock, Hunter M	
Chavin, Walter	19	Hargis, William J., Jr	3
Choquette, Laurent P. E	3	Harrison, Florence M	23
Chow, Tsaihwa J	25	Harry, Harold W	23
Clark, Philip J	19	Harry, Robert R., Jr	
Clench, William J	7	Hassler, William W	10
Coffin, Harold C	10	Hedgpeth, Joel W	6
Cohen, Melvin J	19	Hendricks, Lawrence J	12
Comita, Gabriel W	12	Hensen, Earl B., Jr	
Conover, Robert J	10	Hildebrand, Henry H	

Page	age
Hisacka. Konichi K 2 Medlen, Ammon B	2
	23
	3
Hugghins, Ernest J 3 Mitchell, Rodger D Hunt, John S 3 Moorman, Robert B	22
	15
·	25
Illick, Helen J	13
Ivey, William D 2 Natelson, Delle	13
Jean, Yves	22
Jensen, Thorkil 10 Needham', John W	26
Job, Samuel V 20 North, Wheeler J	6
John, Kenneth R 6 Oliver, Jack	18
Johnson, Waldo E	4
Jollie, Malcolm T 17 Osman, Hussein O. A	27
Jones, Woodrow H 7 Ouellet, Laurent	27
Kadow, Patricia C 20 Parsons, Thomas M	4
Kavanau, Julian L 2 Pauly, Ludwig K	26
Ketchen, Keith S 14 Peckham, Richard S	6
Khan, Muhammad M. R 26 Petersen, Eugene T	16
Kinney, Edward C., Jr 11 Peterson, Peter V., Jr	16
Kleinkopf, M. Dean 12 Phillips, Jesse N., Jr	15
Koh, Kwang-lim 14 Pierson, Elaine C	17
Koo, Swei-yen	16
Kovner, Jacob L 9 Potash, Milton	15
Kratz, William A 16 Powers, Charles F	18
Kress, Herbert	6
Lauff, George H	9
Lennon, Robert E 17 Price, John L	6
Leonard, Edgar M	18
Lewis, John B	6
LeZotte, Lloyd A., Jr 3 Pulley, Thomas E	23
Lindberg, Robert G 1 Ragotzkie, Robert A	1
Loeffler, Robert J 13 Ray, Sammy M	4
Lowry, Edward M	20
McAleer, William J 26 Reeves, Jones D	7
McCauley, James E 3 Reid, George K., Jr	8
McCracken, Francis D 15 Renlund, Robert N	21
McLeese, Donald W 1 Rice, Elbert F., Jr	9
McMaster, Rachel D 16 Riggs, Carl D	11
McMichael, Donald F 25 Rigler, Frank H	13
MacPhee, Craig 8 Robins, Charles R	25
Manly, Jethro O	1
Marcy, Donald E 8 Robertson, James G	20
Margolis, Leo	9
Mathisen, Ole A	25
Maynard, Donald M., Jr 20 Saila, Saul B	9

Salo, Ernest O.       15       Townsley, Sidney J.       24         Sanders, Howard L.       6       Turner, Ruth D.       8         Schumacher, George J.       21       Vallentyne, John R. W.       13         Schwartz, Frank J.       11       Vallowe, Henry H.       17         Sclufer, Evelyn       20       Van Doren, William G.       18         Scruton, Philip C.       18       Vernberg, Winona M.       4         Segal, Earl       24       Veronis, George       18         Sexton, Alan W.       20       Wade, Wilbert E.       25         Shaw, Evelyn S.       11       Wagner, Charles E.       20         Shaw, Evelyn S.       11       Wagner, Edward D.       4         Shaw, Evelyn S.       11       Wagner, Charles E.       20         Shaw, Evelyn S.       11       Walter, Waldemar M.       24         Shepard, Michael P.       9       Walter, Waldemar M.       24         Shepard, Michael P.       9       Walter, Valdemar M.       <	F	age age		Page
	Sanders, Howard L. Schumacher, George J. Schwartz, Frank J. Sclufer, Evelyn Scruton, Philip C. Segal, Earl Sexton, Alan W. Shaw, Evelyn S. Shawe, Daniel R. Shellhamer, Robert H. Shepard, Michael P. Shrift, Alex Shuster, Carl N., Jr. Sindermann, Carl J. Slack, Keith V. Smith, Charles E., Jr Smith, Robert J. Smith, Stanford H. Smoker, William A. Stamper, Maynard N. Starr, Theodore J. Stevenson, James C. Stone, Robert Storr, John F. Sublette, James E. Tait, Howard D. Tamimie, Hakki S. Tanner, Howard A. Teal, John M. Tennant, Alan D. Thomas, Lyell J., Jr.	6 21 11 20 18 24 20 11 13 20 9 15 2 4 11 15 4 15 11 9 6 6 14 27 14 13 22 24	Turner, Ruth D. Vallentyne, John R. W. Vallowe, Henry H. Van Doren, William G. Vernberg, Winona M. Veronis, George Wade, Wilbert E. Wagner, Charles E. Wagner, Edward D. Walter, Waldemar M. Walters, Vladimir Walton, William R. Wang, Feng H. Weinreb, Eva L. Welsh, James P. Whitney, Richard R. Wigley, Roland L. Williams, George C. Williams, John E. Winn, Howard E. Wisby, Warren J. Wisby, Warren J. Witt, Arthur, Jr. Wood, Edward M. Wood, Kenneth G. Woodmansee, Robert A. Wooster, Warren S. Wu, Liang-yu Yeatman, Harry C. Yuan, Lung Zicker, Eldon L.	8 13 17 18 4 18 25 20 4 24 25 6 18 20 22 21 11 7 11 7 20 12 26 7 7 18 4 17 16 13

#### COLLEGE AND UNIVERSITIES REPRESENTED BY THESES

CANA DA

McGill University University of British Columbia University of Toronto

CALIFORNIA

Stanford University University of California, Berkeley University of California, Los Angeles University of Southern California

CONNECTICUT

Yale University

DISTRICT OF COLUMBIA
American University
Catholic University

FLORIDA

Florida State University University of Florida

GEORGIA

Emory University

ILLINOIS

Northwestern University University of Chicago University of Illinois

INDIANA

Indiana University
Purdue University
University of Notre Dame

IOWA

Iowa State College University of Iowa

LOUISIANA

Louisiana State University

MARYLAND

University of Maryland

MASSACHUSETTS

Harvard University
Massachusetts Institute of Technology
Radcliffe College
University of Massachusetts

MICHIGAN

Michigan State College University of Michigan MINNESOTA

University of Minnesota

NEW JERSEY

Rutgers University

NEW YORK

Columbia University
Cornell University
New York State University
New York University
Syracuse University

NORTH CAROLINA

Duke University
University of North Carolina

OHIO

Ohio State University Western Reserve University

OKLAHOMA

Oklahoma A. & M. College University of Oklahoma

OREGON

Oregon State College

**PENNSYLVANIA** 

Bryn Mawr College University of Pennsylvania University of Pittsburgh

RHODE ISLAND

Brown University

TENNESSEE

University of Tennessee

**TEXAS** 

Rice Institute Texas A. & M. College University of Texas

VIRGINIA

Virginia Polytechnic Institute

WASHINGTON

University of Washington

WISCONSIN

University of Wisconsin





